

**May 24, 2002**

**PROPOSED RULE TO REDUCE TOXIC AIR EMISSIONS FROM  
REFRACTORY PRODUCTS MANUFACTURING**

**FACT SHEET**

**TODAY'S ACTION**

- ! The Environmental Protection Agency (EPA) is proposing a rule to reduce emissions of toxic air pollutants from refractory products manufacturing facilities.
- ! Toxic air pollutants, or air toxics, are those pollutants known or suspected to cause cancer and other serious health or developmental problems.
- ! Refractory products are heat-resistant materials that provide the linings for high-temperature furnaces, reactors, and other processing units where extremes of temperature, corrosion, and abrasion would destroy other materials.
- ! Today's proposed rule would limit emissions of organic air toxics such as formaldehyde, polycyclic organic matter (POM), phenol, ethylene glycol, and methanol that occur during the manufacture of a number of different types of refractory products.
- ! The proposed rule will limit emissions of hydrogen fluoride (HF) and hydrochloric acid (HCl) from new kilns during the manufacture of clay refractory products.
- ! The proposed rule will require the use of natural gas as fuel for existing kilns that are used to fire clay refractory products.
- ! The proposed rule will require the use of natural gas as fuel for new and existing kilns that are used to fire chromium refractory products.
- ! Today's action also expands the way EPA defines "chromium refractories production" to include the manufacture of all other refractory products. To clarify the source category on November 18, 1999, it was renamed to refractories manufacturing. In this proposal, we are expanding the source category to include the manufacture of most other refractory products and renaming the source category as "refractory products manufacturing".
- ! EPA will take public comment on the proposed rule for 90 days after it is published in the *Federal Register*. EPA will hold a public hearing if requested.

**BACKGROUND**

- ! The Clean Air Act Amendments of 1990 requires EPA to identify categories of industries or “source categories” that emit one or more listed 188 hazardous air pollutants.
- ! EPA’s published list of source categories includes refractories manufacturing.
- ! This proposal renames the source category as refractory products manufacturing.
- ! For major sources within each source category, the law requires EPA to develop standards that restrict emissions to levels consistent with the lowest-emitting (also called best-performing) plants.
- ! Major sources are those that emit 10 tons a year or more of a single toxic air pollutant or 25 tons a year or more of a combination of air toxics. EPA estimates that about 8 refractory products manufacturing facilities are major sources.
- ! Air toxics emitted during the manufacture of refractory products include methanol, formaldehyde, phenol, ethylene glycol, polycyclic organic matter (POM), chromium, hydrogen fluoride, and hydrochloric acid. Exposure to these air toxics may produce a variety of human health effects such as irritation of the lung, skin, and mucous membranes, effects on the central nervous system, and damage to the liver, kidneys, and skeleton. EPA has classified formaldehyde and POM as probable human carcinogens and EPA has classified hexavalent chromium as a known human carcinogen.
- ! Processes within refractory facilities that emit organic air toxics include drying, curing, firing, pitch and brick preheating, defuming of pitch impregnated shapes, and coking.

## **PROPOSED RULE REQUIREMENTS**

- ! The proposed rule provides industry with two options for compliance at refractory manufacturing facilities emitting organic air toxics: (1) combustion efficiency of at least 99.8 percent; or (2) emission limit of 20 ppm total hydrocarbon corrected to 18% oxygen.
- ! Clay refractory kilns fall into two categories: tunnel kilns and periodic kilns. Tunnel kilns continuously operate as they fire refractory products. Periodic kilns fire refractory products in “batches” or cycles. The proposed rule provides industry with two options to meet emission limits for both HF and HCl at new tunnel or periodic clay refractory kilns: 1) new kilns would have to meet an HF emission limit of 0.001 kilogram per megagram (kg/Mg) of product or reduce HF emissions by at least 99.5 percent; 2) new kilns also would be required to meet an HCl emission limit of 0.0025 kg/Mg of product or reduce uncontrolled HCl emissions by at least 98 percent.

## **BENEFITS AND COST**

- ! The proposed rule would reduce emissions of organic air toxics (formaldehyde, methanol, phenol, ethylene glycol, and POM), by 132 tons a year- a 42 percent reduction from 1996 levels.
- ! The rule also would reduce the emissions of volatile organic compounds by 150 tons a year -- an 80% percent reduction from 1996 levels. Volatile organic compounds contribute to the formation of ground-level ozone, or smog.
- ! EPA estimates the total annual capital cost to industry to comply with the rule at about \$3.5 million. That includes average annual operating and maintenance costs for industry's recordkeeping and reporting of about \$1.6 million.
- ! No significant adverse economic impact is expected to occur as a result of implementing this proposed rulemaking.

## **FOR MORE INFORMATION**

- ! To download the proposed rule from EPA's page on the World Wide Web, go to <http://www.epa.gov/ttn/oarpg>. For additional information, contact Susan Zapata of the EPA's Office of Air Quality Planning and Standards at (919) 541-5167 or by e-mail at [zapata.susan@epa.gov](mailto:zapata.susan@epa.gov).
- ! To comment on the proposed rule, submit written comments to the Air and Radiation Docket and Information Center (6102), Attention Docket Number A-2000-50, Room M-1500, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460. Submit electronic mail comments in ASCII file or WordPerfect® version 5.1, 6.1, or Corel 8 to [a-and-r-docket@epa.gov](mailto:a-and-r-docket@epa.gov). All comments and data submitted in electronic form must note the docket number: A-2000-50.
- ! EPA's Office of Air and Radiation's homepage on the Internet contains a wide range of information on the air toxics program, as well as many other air pollution programs and issues. The address is: [www.epa.gov/oar/](http://www.epa.gov/oar/).